

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 Claim 1 (currently amended): A photographing device
2 provided with a dust removing mechanism comprising:
3 a photographing optical system which forms
4 an optical image of an object;
5 a photoelectric conversion element which converts
6 the optical image into an electric signal;
7 an optical element arranged between the
8 photographing optical system and the photoelectric
9 conversion element in such a manner as to seal the
10 photoelectric conversion element;
11 a piezoelectric element provided at a peripheral
12 portion of the optical element;
13 a drive circuit which supplies a period drive signal
14 to the piezoelectric element to vibrate the piezoelectric
15 element, thereby vibrating the optical element; and
16 a control circuit which changes a frequency of the
17 periodic drive signal to a plurality of frequencies close
18 to two or more resonance frequencies different in order
19 from each other, to thereby cause the optical element to
20 be vibrated at the plurality of frequencies ~~[[in turn]]~~
21 being successively applied.

1 Claim 2 (previously presented): The photographing device
2 according to claim 1, wherein the control circuit
3 controls the frequency of the period drive signal to
4 vibrate the optical element first at a frequency close to
5 a low-order resonance frequency for a predetermined time
6 and then at another frequency close to a high-order
7 resonance frequency for another predetermined time.

Claim 3 (canceled)

1 Claim 4 (previously presented): A photographing device
2 provided with a dust removing mechanism comprising:
3 a photographing optical system which forms
4 an optical image of an object;
5 an photoelectric element which converts the optical
6 image into an electric signal;
7 an optical element arranged between the
8 photographing optical system and the imaging element in
9 such a manner as to seal the photoelectric element;
10 a piezoelectric element provided at a peripheral
11 portion of the optical element to vibrate the optical
12 element;
13 a drive circuit which drives the piezoelectric
14 element; and
15 a control circuit which outputs control signals for
16 driving and controlling the drive circuit,
17 wherein the control circuit first outputs a control
18 signal for causing the optical element to undergo a low-
19 order resonance vibration and then a control signal for
20 causing the optical element to undergo a high-order
21 resonance vibration.

Claim 5 (canceled)

1 Claim 6 (previously presented): The camera photographing
2 apparatus according to claim 4, wherein the low-order
3 resonance vibration is primary vibration having one node,
4 and the high-order resonance vibration is secondary
5 vibration having two nodes.

Claims 7 and 8 (canceled)

1 Claim 9 (previously presented): A photographing device
2 provided with a dust removing mechanism comprising:
3 . a photographing optical system which forms
4 an optical image of an object;
5 a photoelectric conversion element which converts
6 the optical image into an electric signal;
7 an optical element arranged between the
8 photographing optical system and the imaging means in
9 such a manner as to seal the photoelectric conversion
10 element;
11 a piezoelectric element provided at a peripheral
12 portion of the optical element;
13 a drive circuit which supplies a period drive signal
14 to the piezoelectric element to vibrate the piezoelectric
15 element thereby vibrating the optical element;
16 and
17 a control circuit which causes the optical element
18 to generate standing-wave vibration, and controls a
19 frequency of the periodic drive signal to cause nodes of
20 the standing-wave vibration to be successively shifted.

1 Claim 10 (previously presented): The photographing
2 device according to claim 9, wherein the control circuit
3 controls the periodic drive signal to cause the nodes of
4 the standing-wave vibration to be shifted at
5 predetermined intervals.

Claims 11 and 12 (canceled)